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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,411	01/22/2001	Taku Ishizawa	Q62798	9456
7590 07/19/2004			EXAMINER	
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 PENNSYLVANIA AVENUE, N.W. WASHINGTON, DC 20037-3213			VO, ANH T N	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/765,411

Applicant(s)

ISHIZAWA ET AL.

Examiner

Anh t.n Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 6/09/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23, 43 and 45-114 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 17-23, 43, 45, 54-102, 108 and 110-114 is/are allowed.
- 6) ☒ Claim(s) 12-16, 46-48, 103 and 105 is/are rejected.
- 7) ☒ Claim(s) 49-53, 104, 106, 107 and 109 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/23/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

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FINAL REJECTION

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 12-13, 46 and 103 are rejected under 35 USC 102 (a) as being anticipated by Sato (JP Pat. 60-198256).

Sato discloses in Figures 2 and 4B an ink tank (10) for supplying pressurized ink to a print head (1) comprising:

- an outer shell member (11);
- an ink pack (12) storing ink therein, the ink pack (12) being housed in the outer shell member (11);
- a pressure chamber (13) defined between the outer shell member (11) and the ink pack (12), and adapted to receive the pressurized air produced by the air pressurization pump (20);
- a pressurized air inlet port (16) provided to the outer shell member (11), wherein the pressurized air supplied from the air pressurization pump (20) is introduced to the pressurized air inlet port (16);
- an ink outlet section (15) which is provided to the ink pack (12), and which enables outflow of ink from the ink pack; wherein:

* when the ink cartridge (10) is installed in a recording apparatus and used for a printing operation, the pressure chamber (13) is sealed from the atmosphere; and

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* when the ink cartridge (10) is removed from the recording apparatus, the pressurized air inlet port (16) is released, to thereby bring the pressure chamber in communication with the atmosphere, and the ink outlet section (15) is brought into a closed state

- wherein the pressurized air inlet port (16) is formed integrally with the outer shell member (11), and includes a cylindrical member which defines an air channel communicating with the pressure chamber (13) (Figure 4B);
- a sealing member (unmarked seal that is located within ink outlet port 15) interposed between the ink outlet section (15) and the outer shell (11) in a radial direction of the ink outlet section.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-13, 103 and 105 are rejected under 35 USC 103 (a) as being unpatentable over Hmelar et al. (US Pat. 6,164,743) in view of Sato (JP Pat. 60-198256).

Hmelar et al. disclose in Figures 1-9 an ink container using in an ink jet printer comprising:

- an outer shell member (1120, 1102) (Figure 8);
- an ink pack (1114) storing ink therein, the ink pack (1114) being housed in the outer shell member (1120, 1102) to define the pressure chamber (1120, 1102) between the ink pack (1114) and the outer shell member (1120, 1102) (Figure 8);

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- an ink outlet section (1110) which is provided to the ink pack (1114) so that ink in the ink pack (1114) can flow out from the ink outlet section (1110), and which is hermetically coupled to the outer shell member (1120, 1102) (Figure 8);
- a pressurized air inlet port (1108) sealable to put the pressure chamber into a hermetically sealed state from the atmosphere (Figures 6-8);
- wherein the pressurized air inlet port is (1108) accessible in a direction in which the ink outlet section (1110) is accessible (Figures 3 and 6-8); and
- a data storage unit (1206) provided to the outer shell member (1120, 1102) and accessible in the direction in which the ink outlet section (1110) is accessible, wherein the data storage unit (1206) is positioned opposite from the pressurized air inlet port (1108) with respect to the ink outlet section (1110) (Figures 6-8).

However, Hmelar et al. do not disclose the pressure chamber into a communication state with the atmosphere when the ink outlet section is closed.

Nevertheless, Sato discloses in Figures 2 and 4B an ink tank (10) for supplying pressurized ink to a print head (1) comprising the pressure chamber (13) into a communication state with the atmosphere (at air port 16) when the ink outlet section (15) is closed.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Sato in the Hmelar et al. ink container for the purpose of providing a constant pressure.

Claims 14-16 are rejected under 35 USC 103 (a) as being unpatentable Sato (JP Pat. 60-198256) in view of Gasvoda (US Pat. 6,299,296).

Sato discloses the basic features of the claimed invention were stated above but do not disclose an ink cartridge comprising the ink outlet section which has a valve member, wherein, when the ink cartridge is mounted a recording apparatus, the valve member comes into contact with a connection section of the recording apparatus and recedes in an axial direction, thus

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becoming open; and wherein, when the ink cartridge is removed from the recording apparatus, the valve member advances in the axial direction, thus sustaining a closed state; wherein the ink outlet section has a spring member for urging the valve member so as to advance in the axial direction; and wherein the ink outlet section is exposed to the outside of the outer shell member by way of an opening section formed in the outer shell member, wherein an O-ring is interposed between the opening section and the ink outlet section, and wherein an engagement member is provided for establishing a sealed state between the opening section and the ink outlet section by pressing the O-ring .

Gasvoda discloses in Figures 1 and 3-4 an ink container using in an ink jet printer comprising:

- the ink outlet section (64) has a valve member (72), wherein, when the ink cartridge (12) is mounted a recording apparatus (10), the valve member (72) comes into contact with a connection section (44, 50) of the recording apparatus and recedes in an axial direction, thus becoming open (Figures 2 and 4);
- when the ink cartridge (12) is removed from the recording apparatus (10), the valve member (72) advances in the axial direction, thus sustaining a closed state (Figures 2-3);
- wherein the ink outlet section (64) has a spring member (70) for urging the valve member (72) so as to advance in the axial direction (Figures 3-4);
- wherein the ink outlet section (64) is exposed to the outside of the outer shell member (12) by way of an opening section (88) formed in the outer shell member (12), wherein an O-ring (34) is interposed between the opening section (88) and the ink outlet section (64), and wherein an engagement member (30) is provided for establishing a sealed state between the opening section and the ink outlet section by pressing the O-ring (34) (Figures 3-6).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Gasvoda in the Sato ink jet recording apparatus for the purpose of providing a seal member to seal the ink outlet port of the ink cartridge when the ink cartridge being removed from the ink jet recording apparatus.

Claims 47-48 are rejected under 35 USC 103 (a) as being unpatentable over Sato (JP Pat. 60-982564) in view of Wax (US Pat. 4,119,034).

Sato discloses in Figures 2 and 4B an ink tank (10) for supplying pressurized ink to a print head (1) comprising:

- an outer shell member (11) constructed at least by a case and a heat-welding film (11D) (Figure 4B);
- an ink pack (12) of flexible material storing ink therein, the ink pack being housed within the outer shell (11) (Figure 2);
- a pressure chamber (13) defined between the outer shell member (11) and the ink pack (12) and adapted to receive the pressurized air produced by the air pressurization pump (20) (Figure 2).

However, Sato does not disclose an ink tank comprising the case and the heat-welding film are hermetically sealed together by heat-welding .

Nevertheless, Wax disclose in Figure 1 an ink reservoir comprising the case (1) and the heat-welding film (5) are hermetically sealed together by heat-welding.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Wax in the Sato ink tank for the purpose of sealing an opening of the ink bag case.

Response to Applicant's Arguments

The applicant's arguments with respect to the prior art rejection have been carefully considered but not persuasive and have been traversed in view of the new grounds as above discussed.

Claims 1-11, 17-23, 43, 45, 54-102 are allowable.

Claims 49-52 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record disclose an ink cartridge comprising a continuous, substantially planar weld surface is formed over the entirety of a peripheral edge of the case, and a heat-welding film which is thermally welded to the weld surface in the combination as claimed.

Claim 53 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record disclose an ink cartridge comprising a cover coupled to the case to cover the film, wherein an engagement section removably engaging a peripheral edge of the case is formed integrally on the cover in the combination as claimed.

Claim 104 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record disclose an ink cartridge comprising a pair of positioning holes provided to the outer shell member and accessible in the direction in which the ink outlet section is accessible, wherein the positioning holes are positioned opposite from each other with respect to the ink outlet section in the combination as claimed.

Claim 106 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record disclose an ink cartridge comprising a film hermetically sealing an opening of the case member and being interposed between the case member and the lid member in the combination as claimed.

Claim 109 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art

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Claim 109 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record discloses an ink cartridge comprising a press member disposed between the film and the ink pack in the combination as claimed.

CONCLUSION

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo, whose telephone number is (571) 272-2262.

The fax number of this Group 2800 is (703) 872-9306.



ANH T.N. VO
PRIMARY EXAMINER

July 2, 2004